

SERVICE MANUAL

& PARTS LIST

REF. NO. S/M-550
APRIL 1997

MODULE NO.

QW-1492



VDB-3000

CASIO®

(WITHOUT PRICE)

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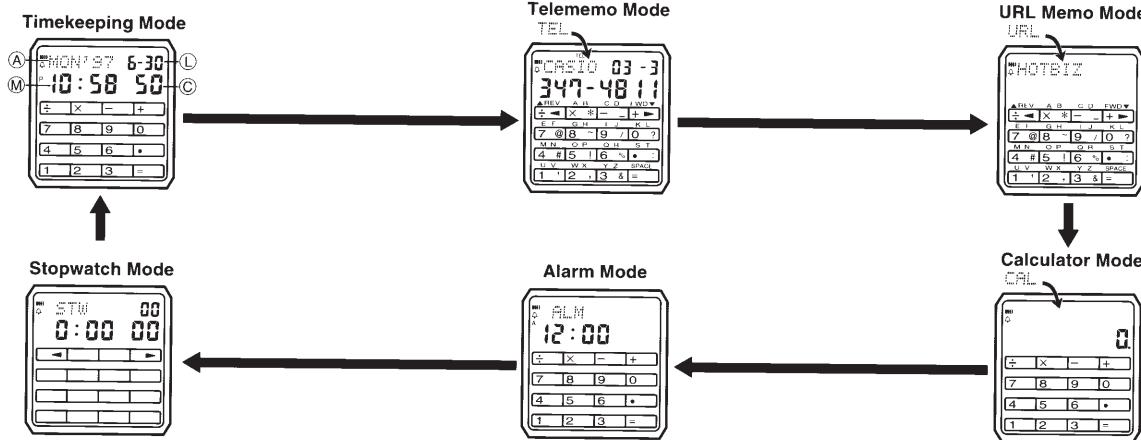
1. SPECIFICATIONS: QW-1492

Item	Detail
Battery	CR2016
Battery life	Approx. 2.0 years
Current consumption	3.1 µA maximum
Alarm system	Piezo plate on Back cover
Accuracy	±15 sec./month
Accuracy setting system	Trimmer capacitor
Accuracy checking	See page 11
Accuracy setting	+0.25 ~ +0.35 sec./day
Functions	<ul style="list-style-type: none"> • Electro-luminescent backlight • Touch Screen • Telememo <p>Memory capacity: 200 entries maximum (name and one number per item) Fields: name (up to 8 characters), telephone number; pager/cell phone number; fax number (two 12-digit number fields each), and e-mail address (up to 46 characters)</p> <p>Other: Auto sort function, remaining memory display, index search</p> • URL memo <p>Memory capacity: 50 entries maximum Fields: Home page title (up to 16 characters) and URL (up to 78 characters)</p> • 8-digit calculator • 1/100 sec. stopwatch <p>Measuring capacity: 23:59'59.99"</p> <p>Measuring mode: Net time, split time, 1st-2nd place time</p> • Daily alarm • Hourly time signals • Regular timekeeping: <p>Hr, min, sec, pm, yr, mo, date, day</p> • Auto-Calendar (pre-programmed until the year 2039) • 12/24-hour formats

2. OPERATION CHART: QW-1492

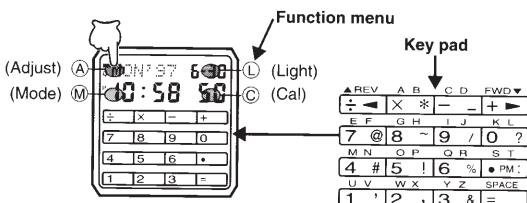
GENERAL GUIDE

- If the digital display of your watch is continually changing, see "Auto Display Function" for information on how to stop it.
- Perform **(A)**, **(L)**, **(M)**, and **(C)** button operations by touching the applicable areas of the touch screen (See "Touch Screen Precautions").



TOUCH SCREEN PRECAUTIONS

The touch screen of this watch has touch-sensitive areas let you select the function you want (function menu) and input text and numbers (key pad) by simply touching the screen with your finger.



- Touch one of the four areas of the function menu to select the function you want. Note that this manual uses single-letter abbreviations to refer to each of the function menu areas: **(A)** (Adjust), **(L)** (Light), **(M)** (Mode) and **(C)** (Calculator). There is no indication on the actual screen of the watch where each area is located.
- The key pad changes to show the characters that can be input in the mode you are currently using. Icons for input that is not available are not shown on the display.

Important!

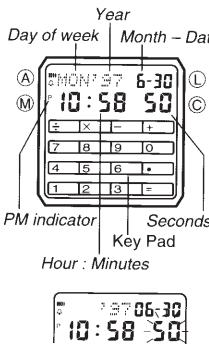
- Do not use sharp objects to touch the screen. Use your finger only. Sharp objects can damage the screen.
- To ensure proper operation of touch screen buttons, be sure to touch in the shaded areas (○) shown in the illustration above with the tip of a finger.



- The touch screen is installed on top of the glass. This type of construction may produce a rainbow effect on the display. The appearance of such phenomenon does not indicate any problem and there is no need for concern.
- You may experience problems with touch screen operation if the watch is left for a long time in an area subjected to temperatures above 60°C (140°F).
- This watch is not water resistant, so avoid high humidity and direct contact with water. Also, do not wear the watch during activities that may cause you to sweat a lot.
- Take care so that you touch the part of the touch screen that contains the icon whose function you want to perform.
- The touch screen may bulge outwards at high temperatures and high altitudes. This watch can still be used normally, and the screen will become flat again when the temperature or altitude return to normal.
- This watch can be set up to beep every time a touch screen button is touched. Use the Calculator Mode to turn the button tone on and off.

- Touch **(M)** to change from mode to mode. To change from the Timekeeping Mode to the Telememo Mode, hold down **(M)** for about half a second.
- In any mode, touch **(L)** to illuminate the display for about one second.

TIMEKEEPING MODE

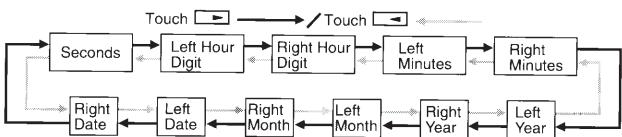


- To enter the Calculator Mode from the Timekeeping Mode, hold down **(C)** for about one second.

Setting the Time and Date

- Hold down **(A)** while in the Timekeeping Mode until the seconds digits start to flash on the display. The seconds digits flash because they are selected.
- Note that the contents of the key pad change when the display switches to the time and date setting screen.
- Touch **[]** or **[]** to change the selection in the following sequence. Holding down either button changes the current selection at high speed.

[Time and Date Setting Screen]

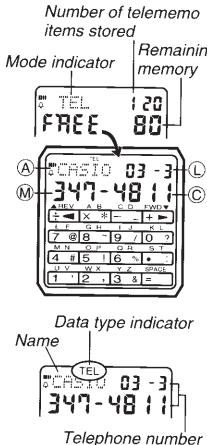


- While the seconds digits are selected (flashing), touch **0** to reset the seconds to 00. If you touch **0** while the seconds count is in the range of 30 to 59, the seconds are reset to 00 and 1 is added to the minutes. If the seconds count is in the range of 00 to 29, the minutes count is unchanged.
- While any other digits (besides seconds) are selected (flashing), touch the buttons of the key pad to input the numbers you want.
- If you are using the 12-hour timekeeping format, the **A** (AM) or **P** (PM) indicator flashes along with the hour and minutes digits. While either hour digit or minutes digit is flashing, touch **[]** to switch between AM and PM.
- The date can be set within the range of January 1, 1995 to December 31, 2094. Inputting a year from 95 to 99 is set as 1995 to 1999, while an input from 00 to 94 is set as 2000 to 2094.
- After you set the time and date, touch **(A)** to return to the Timekeeping Mode.
- The day of the week is automatically set in accordance with the date.
- If you do not operate any button for a few minutes while a selection is flashing, the flashing stops and the watch goes back to the normal Timekeeping Mode automatically (no digit's flashing).
- The watch has a test screen (which shows all digital segments and even some characters you may not be able to normally input) that appears if you hold down **(M)** for a few seconds while the date and time setting screen is on the display. To return to the normal Timekeeping Mode screen, touch any button.

About the Backlight

- In any mode, touch **L** to illuminate the display for about one second.
- The backlight of the watch employs an electro-luminescent (EL) light, which loses illuminating power after very long use.
 - The illumination provided by the backlight may be hard to see when viewed under direct sunlight.
 - The watch will emit an audible sound whenever the display is illuminated. This is caused by a transistor that vibrates when the EL panel lights up. It does not indicate malfunction of the watch.
 - The backlight automatically turns off illuminating whenever an alarm sounds.

TELEMEMO MODE



The Telememo Mode lets you store names, telephone numbers, e-mail addresses and other personal data for later recall when you need it.

- If you do not operate any button for 2 or 3 minutes while in the Telememo Mode, the watch automatically goes back to the Timekeeping Mode.

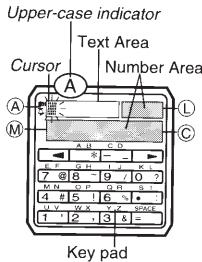
About Telememo Data

Telememo data consists of a name, telephone number, mobile phone/pager number, fax number and e-mail address. Memory can hold up to 200 sets of data when each set contains an eight-character name and a 12-digit number. Data is automatically sorted based on the characters of the name.

- You can input up to 8 characters for the name, 12 digits each for the telephone, mobile phone/pager, and fax number (two fields for each number), and 46 characters for the e-mail address.

- "e-mail" is short for "electronic mail," which are messages sent over a computer network.
- Indicators show what data is currently on the display: **TEL** (telephone number), **CALL** (pager, mobile phone or other number), **FAX** (fax number), **E-MAIL** (e-mail address).
- See the "Memory Capacity Table" for details on memory capacity.
- See the "Character List" for details on how the watch sorts data.

About Text and Number Input



You can input characters at the flashing cursor in the Telememo Mode and URL Memo Mode. There are two display areas where you can input characters: a text area and a number area.

Text Area

Use this area for the text (Telememo name, e-mail address, and URL Memo Mode data) field. You can input upper-case and lower-case alpha characters (A~Z/a~z), numbers, and various symbols in the Text area.

- While the cursor is in the text area, use the buttons of the key pad to input characters.

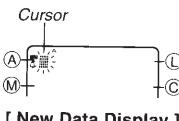
- Each button is assigned more than one character. Each touch of a button sequentially changes the character at the cursor position. Touching **[OK]**, for example, changes the characters at the cursor position in the sequence: K → L → O → ? → K → etc. The characters that a button can input are indicated above button and within the boundary of the button in the key pad.
- Upper-case input (indicated by the upper-case indicator "A") is the default input method whenever an input screen first appears on the display. To switch to lower-case input, touch **L** so the lower-case indicator "a" appears.
- See the "Character List" for details on the types of characters that can be input into the text area.

Number Area

You can input numbers (**0** to **9**), hyphens (-) and spaces for telephone, pager/mobile phone, and fax numbers in the Telememo Mode's number area.

- While the cursor is in the number area, use the key pad to input numbers.
- Use **[OK]** to input spaces and **[HYPHEN]** to input hyphens.

Inputting New Telememo Data



- In the Telememo Mode, touch **[OK]** or **[HYPHEN]** until the new data display appears.
- The new data display is the one that is blank (contains no name and telephone number).
- If there is no Telememo data stored in memory yet, the new data display appears as soon as you enter the Telememo Mode.

- Hold down **A** until the flashing cursor appears in the text area of the display.

- Input a name in the text area.

- See "Text Area" for details on how to input characters in the text area.
- When the character you want is at the cursor position, touch **[OK]** to move the cursor to the right.

- After you input a name, touch **C** to advance to the telephone number input.

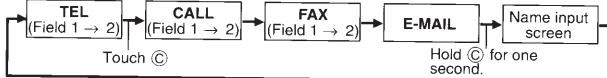
- This causes the cursor to jump to the number area and the telephone data indicator "TEL" to appear on the display.

- Input a number in the number area.

- See "Number Area" for details on how to input characters in the number area.
- Each time you input a digit, the cursor automatically moves to the right.
- If you make a mistake while inputting numbers, use **[C]** and **[HYPHEN]** to move the cursor to the location of the error and input the correct data.

- Repeat steps 4 and 5 to input other telephone, pager/mobile phone, and fax numbers.

- Indicators appear on the display to indicate the type of data (telephone, pager/mobile phone, fax) being input. See "About Telememo Data" for details.
- Each number input screen has two separate fields. When you touch **C** after inputting a number in Field 1, Field 2 appears for input of a second number. You can input a second number in Field 2, or touch **C** without inputting anything to skip to input of the next number.



- After inputting numbers, use **C** to advance to e-mail address input.

- At this time the cursor moves to the first position in the text area and the "E-MAIL" indicator appears on the display.

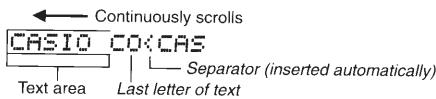
- Input an e-mail address in the text area.
- See "Text Area" for details on how to input characters in the text area.
- When the character you want is at the cursor position, touch **[OK]** to move the cursor to the right.

- After inputting data, touch **A** to store it.

- When you touch **A** to store data, the message **SORT** appears on the display to indicate that the watch is sorting data. It may take up to six minutes for the sort operation to complete.
- After the sort operation is complete, the cursor appears in the text area, ready for input of a new Telememo data item.

- Input more data (starting from step 3 above) or touch **A** again to return to the normal Telememo Mode (without the cursor).

- The text area of the display can show only six characters at a time, so longer text scrolls continuously from right to left.



- If the message **FULL** appears in the text area of the display, it means that memory is full. To store more data, you will first have to delete some of the data stored in memory.

- If you do not perform any button operation for a few minutes while the cursor is on the display, the watch automatically returns to the normal Telememo Mode (without the cursor).

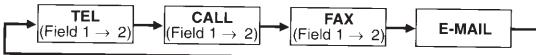
Recalling Telememo Data

There are two methods you can use to search for Telememo data: scroll search and index search.

To use scroll search to recall data

- In the Telememo Mode, touch **[OK]** to scroll forward through stored data items or **[HYPHEN]** to scroll in reverse.
- Holding down either button scrolls through the data at high speed.

- When the data item you want is on the display, you can touch **C** to search through the other fields (numbers or e-mail address) that make up the data item.



- Only the fields that contain data appear on the display. Empty fields are skipped.

- The name of the data item is also shown in the text area while any field screen besides E-MAIL is on the display.

- If the e-mail address is longer than six characters, it scrolls across the display from right to left when you first display the E-MAIL field screen. Touching **C** stops the scrolling and displays the first six characters of the e-mail address. Each subsequent touch of **C** (while the scrolling is stopped) displays the next six characters of the e-mail address.

- To advance from the E-MAIL field screen to the next screen, hold down **C** for about one second.

To use index search to recall data

- In the Telememo Mode, hold down any key pad button other than **[OK]** or **[HYPHEN]** until the **SEARCH** indicator appears on the display.

- Use the key pad buttons to input the first character of the name field of the data you want to recall.

- See "Text Area" for details on how to input characters in the text area.



3. Touch \leftarrow or \rightarrow to jump to the first data item whose name data starts with the character you selected in step 2.
4. Use scroll search to recall other data items before and after the one you found using index search.

Editing Telememo Data Items

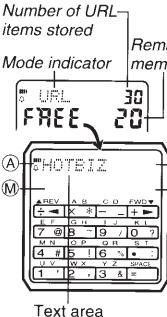
1. In the Telememo Mode, scroll through the data items and display the one you want to edit.
 2. Hold down \textcircled{A} until the flashing cursor appears in the text area of the display.
 - The data item's name field contents appear on the display with the flashing cursor under the first character.
 3. Touch \textcircled{C} to display the screen of the field whose data you want to change.
-
4. Use \leftarrow and \rightarrow to move the cursor to the character you want to change.
 5. Use the buttons of the key pad to make any changes you want.
 - For details on inputting characters, see "About Text and Number Input".
 - Touching \textcircled{M} while editing E-MAIL data deletes the character at the cursor position. *Do not hold down \textcircled{M} for more than two seconds!* Doing so will delete the entire data item.
 6. After making the changes you want, touch \textcircled{A} to store it and return to the Telememo Mode.

Deleting Telememo Data

Use the following procedure to delete a specific Telememo data item. This procedure deletes all the data in the data item.

1. In the Telememo Mode, scroll through the data items and display the one you want to delete.
2. Hold down \textcircled{A} until the flashing cursor appears in the text area of the display.
- The data item's name field contents appear on the display with the flashing cursor under the first character.
3. Hold down \textcircled{M} about two seconds until the data disappears from the display.
- At this time the cursor appears in the text area, ready for input.
4. Input data or touch \textcircled{A} to return to the Telememo Mode.

URL MEMO MODE



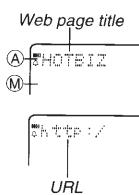
The URL Memo Mode lets you store up to 50 of your favorite Web page URLs (Uniform Resource Locators), along with a descriptive title for later recall when you need them. Data is automatically sorted based on the characters of the title.

- If you do not operate any button for 2 or 3 minutes while in the URL Memo Mode, the watch automatically goes back to the Timekeeping Mode.
- This watch comes with URL data already in the URL Memo Mode. You can delete the pre-programmed data and replace it with your own.
- "URL" is short for "Uniform Resource Locator," which is the address of an Internet Web page.
- The pre-programmed URL data is selected from among the 50 most popular URLs as listed in the "Yahoo! Internet Guide" (October 1996) published by SOFTBANK CORP. Since URLs are subject to change without notice, the inclusion of a URL does not necessarily guarantee that such URL actually exists.
- See the "Character List" for details on how the watch sorts data.
- The data item on the display when you exit the URL Memo Mode appears first the next time you enter the URL Memo Mode.

Recalling URL Memo Data

This watch comes with URL data already in the URL Memo Mode that appears on the display when you enter the URL Memo Mode for the first time. In the URL Memo Mode, both the title of the web page and the URL appear in the text area.

- The text area of the display can show only six characters at a time, so longer text scrolls continually from right to left.
- Whenever you enter the URL Memo Mode, the web page title field screen appears first.



1. In the URL Memo Mode, touch \leftarrow to scroll forward through stored web page titles or \rightarrow to scroll in reverse.
 - Holding down either button scrolls through the data at high speed.
2. When the web page title you want is on the display, hold down \textcircled{C} for one second to display the corresponding URL data.

- If the URL is longer than six characters, it scrolls across the display from right to left when you first display the URL field screen. Touching \textcircled{C} stops the scrolling and displays the first six characters of the URL. Each subsequent touch of \textcircled{C} (while the scrolling is stopped) displays the next six characters of the URL.

- To switch to the web page title field screen, hold down \textcircled{C} for about one second.

Inputting New URL Memo Data

1. In the URL Memo Mode, touch \leftarrow or \rightarrow until the new data display appears.
- The new data display is the one that is blank (contains no web page title).
2. Hold down \textcircled{A} until the flashing cursor appears in the text area of the display.

3. Input a web page title in the text area.
 - See "Text Area" for details on how to input characters in the text area.
 - You can input up to 16 characters for the web page title.
 - When the character you want is at the cursor position, touch \rightarrow to move the cursor to the right.



4. After you input the title, hold down \textcircled{C} for one second to advance to URL input.
 - At this time the web page title text you input in step 3 disappears from the screen, and the cursor appears in the text area for input of the URL.

5. Input a URL in the text area.
 - See "Text Area" for details on how to input characters in the text area.
 - You can input up to 78 characters for the URL.
 - When the character you want is at the cursor position, touch \rightarrow to move the cursor to the right.

- If you make a mistake while inputting characters, use \leftarrow and \rightarrow to move the cursor to the location of the error and input the correct data.

6. After inputting data, touch \textcircled{A} to store it.
 - When you touch \textcircled{A} to store data, the message $\textcircled{S}ORT$ appears on the display for a few moments as the watch sorts the data. It may take up to a minute before the $\textcircled{S}ORT$ message clears.
 - After the sort operation is complete, the cursor appears in the text area, ready for input new URL memo data.

7. Input more data (starting from step 3 above) or touch \textcircled{A} again to return to the normal URL Memo Mode (without the cursor).

- If the message \textcircled{FLU}_{LL} appears in the text area of the display, it means that memory is full. To store more data, you will first have to delete some of the data stored in memory.

- If you do not perform any button operation for a few minutes while the cursor is on the display, the watch automatically returns to the normal URL Memo Mode (without the cursor).

Editing URL Memo Data Items

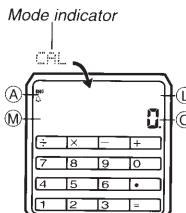
1. In the URL Memo Mode, scroll through the data items and display the one you want to edit.
2. Hold down \textcircled{A} until the flashing cursor appears in the text area of the display.
- The web page title field screen appears, with the flashing cursor under the first character.
3. Use \textcircled{C} to display the data you want to edit.
 - Holding down \textcircled{C} for about one second switches between the web page title field screen and the URL field screen.
4. Use \leftarrow and \rightarrow to move the cursor to the character you want to change.
5. Use the buttons of the key pad to make any changes you want.
 - See "Text Area" for details on how to input characters in the text area.
- While the URL field screen is on the display, touching \textcircled{M} deletes the character at the current cursor location and slides following characters to the left to fill in the space. *Do not hold down \textcircled{M} for more than two seconds!* Doing so will delete the entire data item.

6. After making the changes you want, touch \textcircled{A} to store it and return to the URL Memo Mode.

Deleting URL Memo Data

1. In the URL Memo Mode, scroll through the data items and display the one you want to delete.
2. Hold down \textcircled{A} until the flashing cursor appears in the text area of the display.
3. Hold down \textcircled{M} about two seconds until the displayed data disappear.
- At this time the cursor appears in the text area, ready for input.
4. Input data or touch \textcircled{A} to return to the URL Memo Mode.

CALCULATOR MODE



The Calculator Mode lets you perform addition, subtraction, multiplication, and division and other operations using 8-digit values (7 digits for negative values, because one digit is used by the minus sign).

- If you do not operate any button for 6 or 7 minutes while in the Calculator Mode, the watch automatically goes back to the Timekeeping Mode.
- You can use the Calculator Mode to turn the button input tone on and off.

Using the Calculator

- Input calculation just as you do with any standard calculator, as shown in the examples below. Be sure to touch **C** to clear the calculator before beginning each calculation.
- If the result of a calculation exceeds 8 digits, an **E** (error) indicator appears on the display. Touch **C** to clear the error indicator.

Basic Calculations

The **+**, **-**, **×**, and **÷** indicators appear on the display whenever you touch the corresponding operation button.

Example	Operation	Display
$12.3 + 74 - 90 = -3.7$	$12 \square 3 \square 74 \square 90 \square$	-3.7
$(12 - 0.5) \times 3 \div 7 = 4.9285714$	$12 \square \square 5 \square 3 \square 7 \square$	4.9285714

Constant Calculations

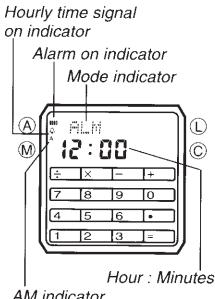
Input the number you want to use as a constant, and then touch one of the arithmetic buttons twice. This causes the **K** indicator to appear on the display, indicating constant calculations.

Example	Operation	Display
$10 \pm 7 = 17$	$7 \square \square 10 \square$	+K 17
$12 \pm 7 = 19$	$12 \square \square$	+K 19
$78 - 12 = 66$	$12 \square \square 78 \square$	-K 66
$45 - 12 = 33$	$45 \square \square$	-K 33
$2 \times 12 = 24$	$12 \square \square 2 \square$	\times K 24
$5 \times 12 = 60$	$5 \square \square$	\times K 60
$45 \div 9 = 5$	$9 \square \square \div 45 \square$	\div K 5
$72 \div 9 = 8$	$72 \square \square$	\div K 8
$17 + 17 + 17 + 17 = 68$	$17 \square \square \square \square \square \square$	+K 68
$(2.3)^4 = 27.9841$	$2 \square 3 \square \times \square \square \square \square$ To perform the above $(2.3)^2$ $2 \square 3 \square \times \square \square$	\times K 27.9841

Switching the Button Input Tone On and Off

In the Calculator Mode, touch **A** to switch the button input tone on and off. The button input on/off setting you make in the Calculator Mode is applied to all other modes, except the Stopwatch Mode.

ALARM MODE



When the Daily Alarm is turned on, the alarm sounds for 20 seconds at the preset time each day. Touch any button to stop the alarm after it starts to sound.

When the hourly time signal is on, the watch beeps every hour on the hour.

- If you do not operate any button for 2 or 3 minutes while in the Alarm Mode, the watch automatically goes back to the Timekeeping Mode.

Setting the Alarm Time

- Hold down **A** while in the Alarm Mode until the left hour digit starts to flash on the display. The left hour digit flashes because it is *selected*.
- At this time, the alarm is automatically turned on.

2. Use the buttons of the key pad to input the alarm time.

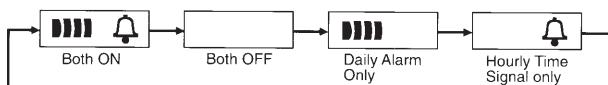
- The flashing selection automatically moves to the right each time you input a number. You can also use **←** and **→** to move the flashing digit between the hour and minutes settings.
- The 12-hour/24-hour format of the alarm time matches the format you select in the Timekeeping Mode.
- If you are using the 12-hour timekeeping format, the **A** (AM) or **P** (PM) indicator flashes along with the hour and minutes digits. While these digits are flashing, touch **M** to switch between AM and PM.
- When setting the alarm using 12-hour format, make sure that you set the time correctly as AM (**A**) or PM (**P**).

3. After you set the alarm time, touch **A** to return to the Alarm Mode.

Turning the Daily Alarm and Hourly Time Signal On and Off

Touch **C** while in the Alarm Mode to change the status of the Daily Alarm and Hourly Time Signal in the following sequence.

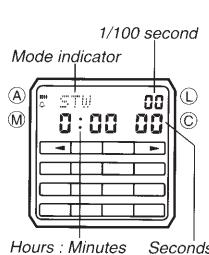
[Alarm ON Indicator/Hourly Time Signal On Indicator]



Testing the Alarm

Hold down **+** or **-** while in the Alarm Mode to sound the alarm.

STOPWATCH MODE



The Stopwatch Mode lets you measure elapsed time, split times, and two finishes. The range of the stopwatch is 23 hours, 59 minutes, 59.99 seconds.

(a) Elapsed time measurement



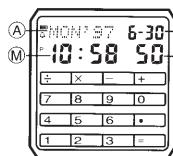
(b) Split time measurement



(c) Split time and 1st-2nd place times



AUTO DISPLAY FUNCTION



The Auto Display function of this watch continually changes the contents of the digital display. Note that you cannot use any of the watch's other functions while the Auto Display function is operating.

Turning the Auto Display Off

Hold down **M** for about three seconds in any mode until the watch beeps.

Turning the Auto Display On

Hold down **M** for about three seconds in any mode until the watch beeps.

Note

The Auto Display function cannot be performed while you are making settings (i.e. while digits or other settings are flashing on the display).

ABOUT THE BATTERY

Should battery power drop below a certain level, display characters will appear dim, the backlight may fail to light, and the alarm may fail to sound. Also, the message **BATT** will appear and further operation will be impossible when you try to input or recall data in the Telememo and URL Memo modes. Should any or all of this happen, have the battery replaced as soon as possible. Using the watch while the battery is low can result in abnormal operation.

ALWAYS LEAVE BATTERY REPLACEMENT UP TO THE DEALER WHERE YOU BOUGHT THE WATCH OR TO AN AUTHORIZED CASIO DISTRIBUTOR. BE SURE TO SHOW THE FOLLOWING INFORMATION TO THE PERSON REPLACING THE BATTERY.

Attention dealer or CASIO distributor

Be sure to use the following procedure when replacing the battery.

- Open and remove the back cover.
- If **CLOSE** appears on the display when you open the back cover, replace the back cover. Wait for a few minutes and try again.
- Remove the battery holder.
- Remove the old battery and load a new one.
- Replace the battery holder.
- Touch the AC contact and the battery (+) side with metallic tweezers.
- The AC (all clear) operation **DOES NOT** delete data stored in memory.
- Close the back cover.
- The message **WIFT** appears on the display about 20 seconds after you perform the AC (all clear) operation in step 5 of the above procedure, indicating that the watch is performing an internal self-check for data errors.
- The **WIFT** indicator remains on the display up to 6 minutes while the watch performs an internal check of data in memory. Though you can change the time setting of the watch while the **WIFT** indicator is on the display, other operations are disabled.

Memory Capacity Table

Number of Characters Per Field		Number of Data Items *1	Memory Capacity *2
Name	Numbers	E-mail address	
8	--	--	1 200
8	12	--	1 200
8	12x2	--	2 100
8	12x3	--	2 100
8	12x4	--	3 66
8	12x5	--	3 66
8	12x6	--	4 50
8	12x6	7	4 50
8	12x6	15	5 40
8	12x6	23	5 40
8	12x6	31	6 33
8	12x6	39	6 33
8	12x6	46	7 28

*1 8 text characters and 12 numbers are equivalent to one data item.

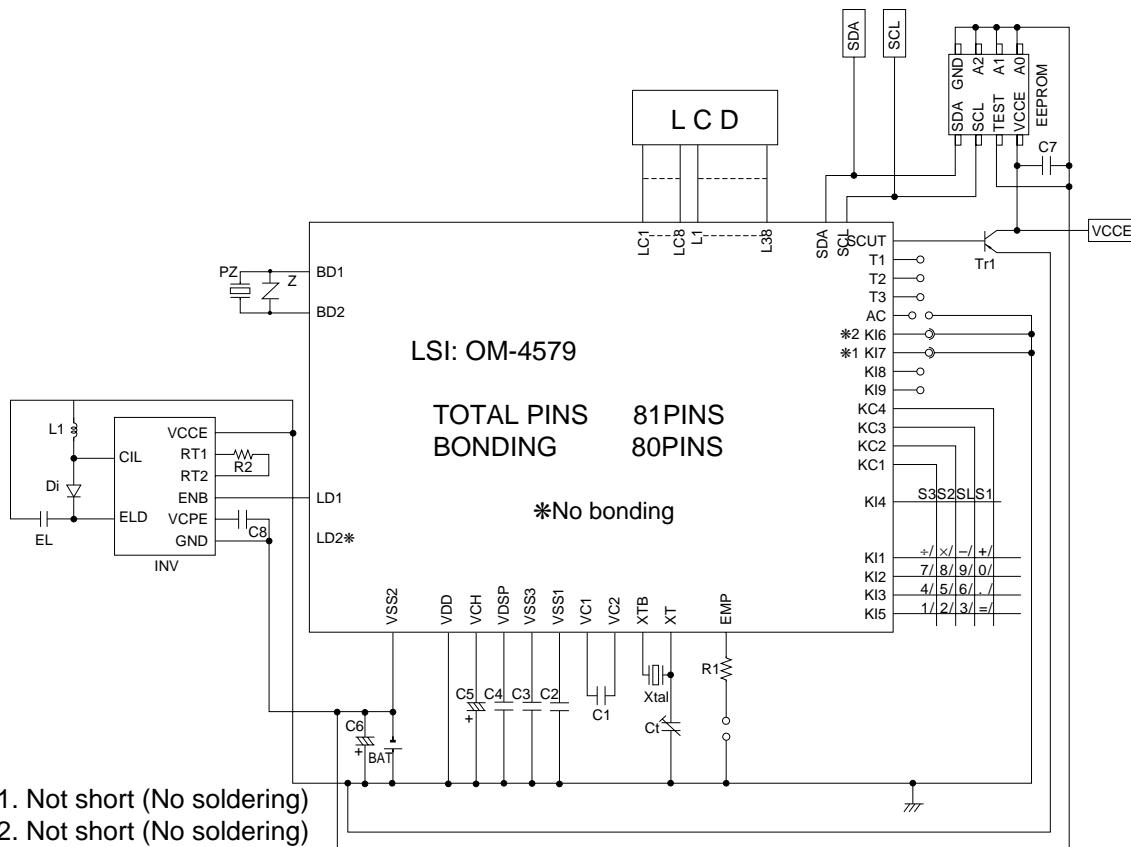
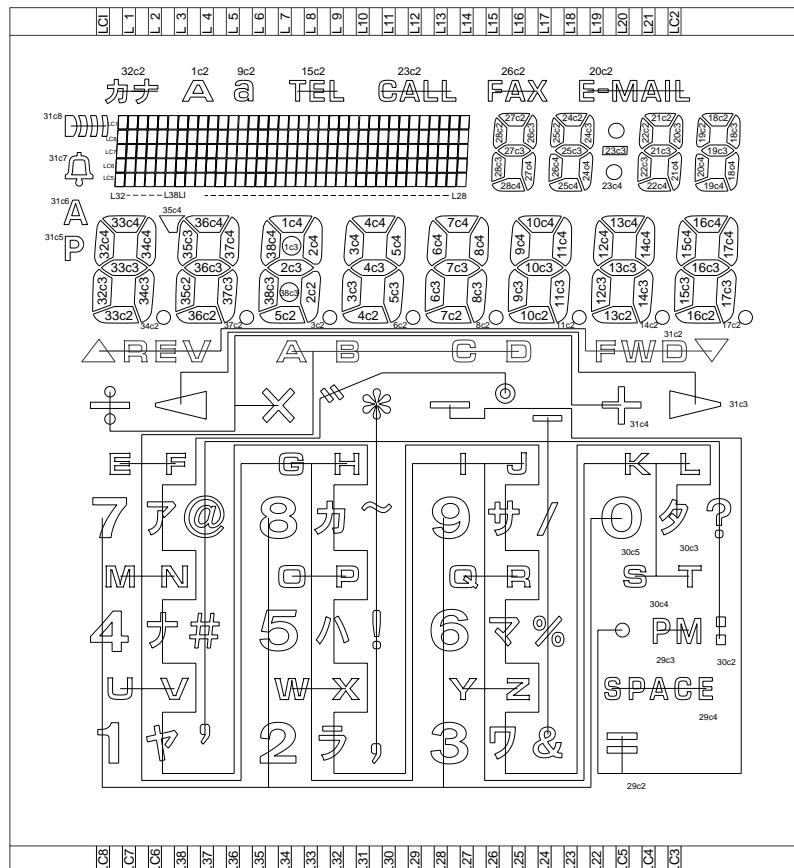
*2 Maximum number of data items that can be stored in memory if all data items are the same size.

Character List

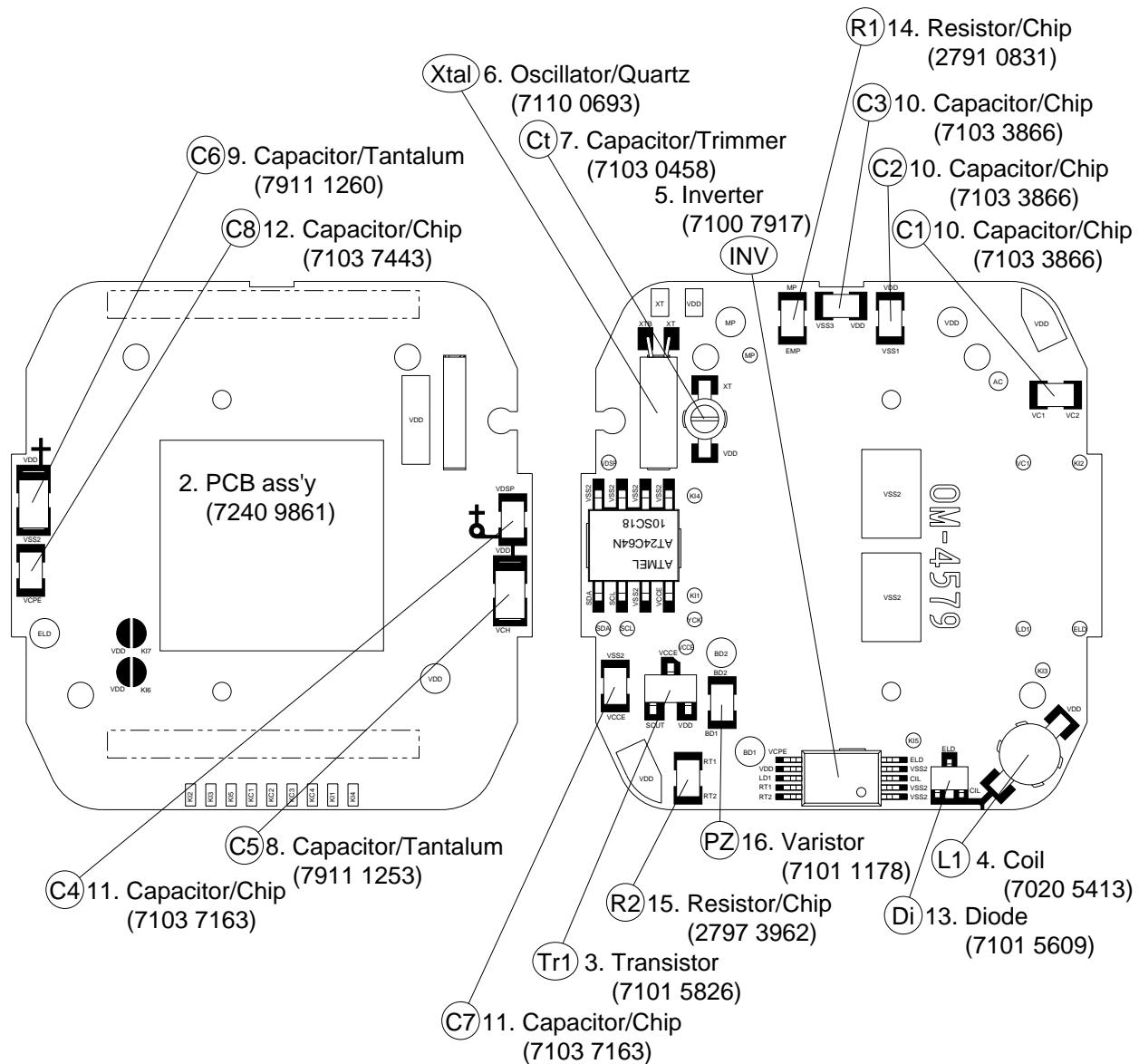
1	(space)	17	P	33	f	49	v	65	---
2	A	18	Q	34	g	50	w	66	---
3	B	19	R	35	h	51	x	67	ä
4	C	20	S	36	i	52	y	68	~
5	D	21	T	37	j	53	z	69	/
6	E	22	U	38	k	54	ø	70	?
7	F	23	V	39	l	55	å	71	#
8	G	24	W	40	m	56	æ	72	:
9	H	25	X	41	n	57	è	73	%
10	I	26	Y	42	o	58	é	74	=
11	J	27	Z	43	p	59	ë	75	:
12	K	28	a	44	q	60	è	76	;
13	L	29	b	45	r	61	í	77	:
14	M	30	c	46	s	62	ó	78	ò
15	N	31	d	47	t	63	ú	79	ö
16	O	32	e	48	u	64	÷		

3. DRAWINGS

3-1. BLOCK DIAGRAMS: QW-1492



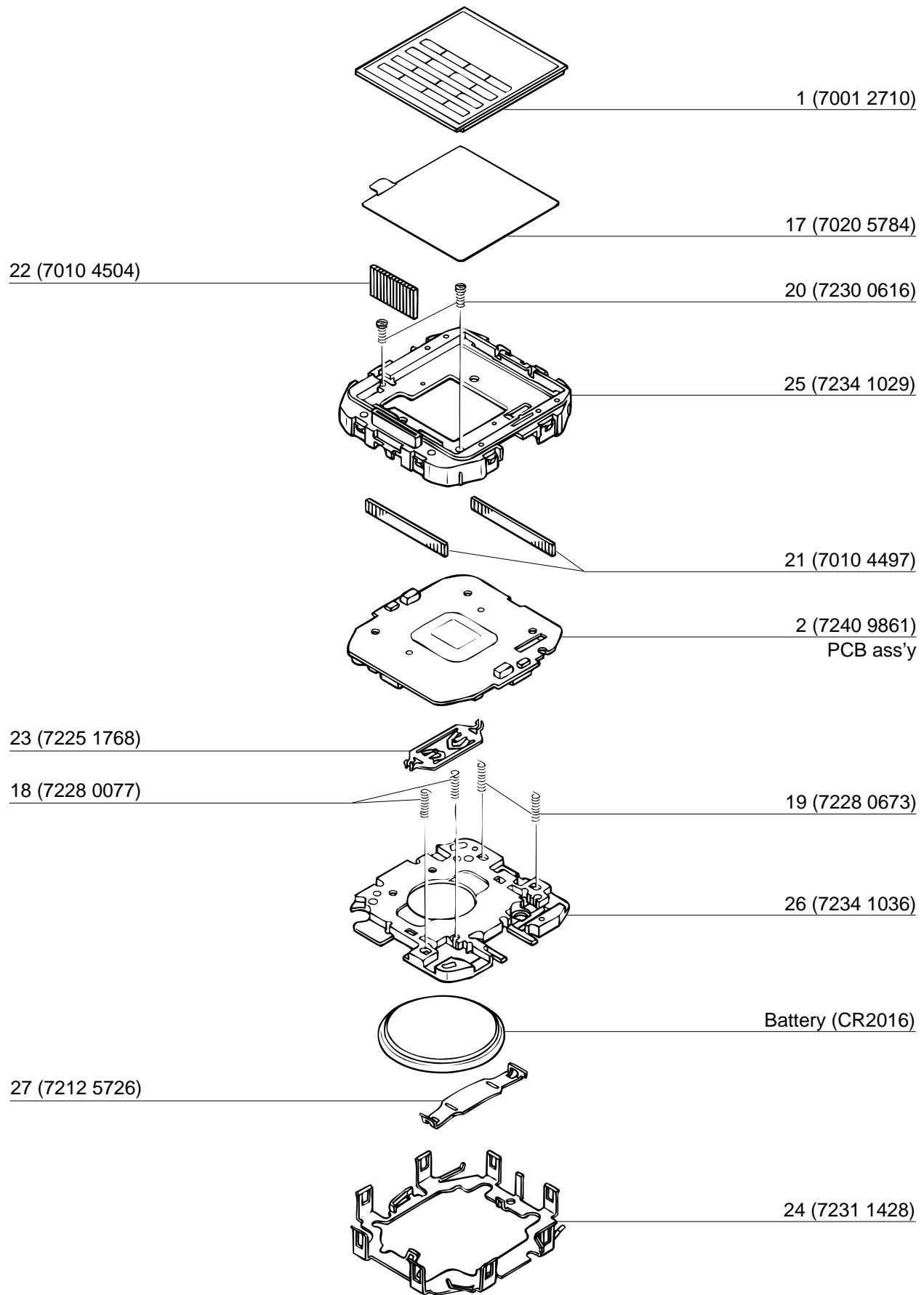
3-2. CHECKING TERMINALS AND COMPONENTS: QW-1492



Top view of P.C.B. ass'y

Bottom view of P.C.B. ass'y

4. EXPLODED VIEW: QW-1492



5. PARTS LIST: QW-1492

Note: 1. Prices and specifications are subject to change without prior notice.

2. Spare parts are classified as follows according to their importance in after-sales service.

A Rank ----- Very Important

B Rank ----- Important

C Rank ----- Less important

3. Batteries in Bulk pack on the tray will be supplied from our Overseas Spare Parts Section under charge basis.

Batteries in Blister pack will be supplied from our Sales Department.

4. As for order/supply of spare parts, refer to the separate publication "GUIDEBOOK for spare parts supply".

Item	Code No.	Parts Name	Specification	Applicable	Q	R
	7072 6221	Module/without Movement	QW-1492-01	VDB-3000		A
1	7001 2710	LCD	C1491-01P	QW-1492-01	1	A
2	7240 9861	PCB ass'y	Q252056*2	QW-1492-01	1	A
3	7101 5826	Transistor	2SA811A-T1-C16.C17	QW-1492-01	1	B
4	7020 5413	Coil	ELT3K104B	QW-1492-01	1	B
5	7100 7917	Inverter	MIP803000L	QW-1492-01	1	B
6	7110 0693	Oscillator/Quartz	DT-26SJ	QW-1492-01	1	B
7	7103 0458	Capacitor/Trimmer	TSF-2L2-120-4.2	QW-1492-01	1	B
8	7911 1253	Capacitor/Tantalum	F930J156MAA	QW-1492-01	1	B
9	7911 1260	Capacitor/Tantalum	F930J106MAA	QW-1492-01	1	B
10	7103 3866	Capacitor/Chip	GRM40-002F104P25PT	QW-1492-01	3	B
11	7103 7163	Capacitor/Chip	CT21Y5V684P16AT	QW-1492-01	2	B
12	7103 7443	Capacitor/Chip	CM21W5R472K25AT	QW-1492-01	1	B
13	7101 5609	Diode	MA1010000L	QW-1492-01	1	B
14	2791 0831	Resistor/Chip	ERJ-6GEYJ681V	QW-1492-01	1	B
15	2797 3962	Resistor/Chip	ERJ-6GEYF394V	QW-1492-01	1	B
16	7101 1178	Varistor	NV8.2MC1A-T	QW-1492-01	1	B
17	7020 5784	EL	NEL-1490-A-02	QW-1492-01	1	B
18	7228 0077	Spring/Coil 504	Q420349-1	QW-1492-01	2	B
19	7228 0673	Spring/Coil 504	Q420349A-2	QW-1492-01	2	B
20	7230 0616	Spring/Coil 1199-1	Q437728B-1	QW-1492-01	2	B
21	7010 4497	Interconnector/1490-1	Q454027-1	QW-1492-01	2	C
22	7010 4504	Interconnector/1490-2	Q454028-1	QW-1492-01	1	C
23	7225 1768	Terminal/Battery – 208	Q34225B-1	QW-1492-01	1	C
24	7231 1428	Plate/Main 1490	Q250990A-1	QW-1492-01	1	C
25	7234 1029	Housing/1490-1	Q150379A-1	QW-1492-01	1	C
26	7234 1036	Housing/1490-2	Q150380-1	QW-1492-01	1	C
27	7212 5726	Holder/Battery 502 Battery/Lithium	Q38249-1 CR2016	QW-1492-01 1	1	C

For the prices and minimum order/supply quantities of the above parts, refer to the Parts Price List P.P.L.-521.

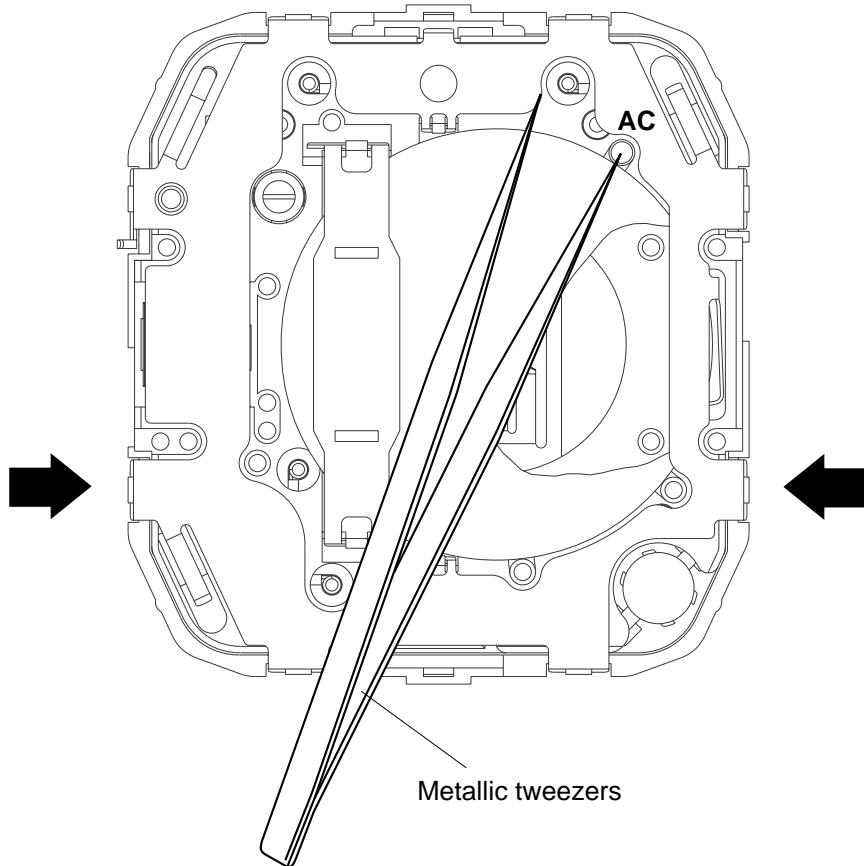
Notes: Q – Used quantity

R – Rank

6. PRECAUTIONS FOR REPAIR: QW-1492

6-1. AC (ALL CLEAR) AND REMOVING OF MODULE

1. Perform AC (ALL CLEAR) when inserting a new battery, or else the memories and/ or counters may give erratic displays.
Touch the AC contact and the positive (+) side of the battery or main plate with the metallic tweezers. The contact should be made for about two seconds.
2. On removing of the module from the case, please insert the precision screw driver between the module and the case pointed by arrows.



6-2. ACCURACY CHECKING

Check the accuracy of the module with the quartz timer after switching the module to "ACCURACY CHECKING MODE".

The operations are shown below:

A) SWITCHING TO "ACCURACY CHECKING MODE"

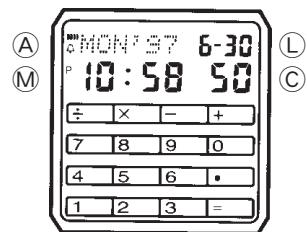
Hold down Ⓐ while in the Timekeeping mode until the seconds digits start to flash on the display.
Then keep pushing ⓒ for 2 or 3 seconds.

Then all the segments are displayed and the LCD drive signals are changed to the static drive signal of "32 Hz" so that you can check the accuracy with the quartz timer.

B) CANCELLATION OF THE "ACCURACY CHECKING MODE"

Push any button.
Then the display is returned to its original state.

NOTE: The "ACCURACY CHECKING MODE" will automatically return to the regular mode in 1 ~ 2 hour(s) without any operation.



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